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BOOK-LICE OR PSOCIDS

ANNOYING HOUSEHOLD PESTS

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Adult book-louse, about fifty times natural size.

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Contribution from the Bureau of Entomology

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BOOK-LICE, OR PSOCIDS, are the tiny white or grayish-white insects, scarcely as long as the width of an ordinary pinhead, and often much smaller, that scurry across the pages when old, musty books are opened.

They appear in houses in greatest numbers during late summer and early fall, and are more abundant in damp, well-shaded rooms not in general use, and in houses long closed. Very few are found in bright, sunny, dry rooms in constant use.

Book-lice run in a halting fashion over everything in the house. They feed on all sorts of vegetable and animal matter. It is not often that they become abundant, and when they do, they attract attention more by their annoying presence than by the actual damage caused. They injure man in no way and are therefore unlike the true lice.

Unless they are present in annoying numbers, it is probably not worth while to worry about book-lice, for many exist out of doors and can get in through cracks and through the mesh of ordinary screens. With the coming of cold weather, or in late fall and winter, book-lice die off, but may leave behind eggs that will hatch the following spring. Control measures, discussed on page 4, should be resorted to when book-lice become unusually abundant.

BOOK-LICE[1] OR PSOCIDS.

THEIR HABITS AND WHERE THEY THRIVE.

DWELLING HOUSES, libraries, museums, military barracks, storerooms, barns, and other buildings often harbor diminutive insects known as book-lice, or psocids. Although many of these doubtless enter from outside, those that become numerous enough to annoy occupants can live and multiply wholly within doors.

Book-lice are found in all sorts of places, such as the trunks and foliage of trees, on fences, in woodpiles, and in refuse of all sorts; in fact, upon practically anything that has been left undisturbed for any length of time during warm and moist weather.

The book-lice that occur in houses have no wings and are seldom one-sixteenth of an inch long, often much smaller. Their shape and appearance are shown by the figure on the title-page. They are pale colored, almost white when young, but as they grow older are darkened somewhat by the food they have eaten, for this shows through their more or less translucent bodies. When old, musty books are opened suddenly, the book-lice may be seen scurrying across the pages in a halting and uncertain fashion, and frequently they are noticed upon door screens, window panes, furniture, books, and photographs, or upon almost any object in the room.

Book-lice do not attack man as do the true lice, and are, therefore, harmless to the occupants of a home. They are called book-lice

[1] Insects of the order Corrodentia and family Psocidae.

merely because they are often seen on books, and because they have some resemblance to chicken lice. Usually they attract attention more because of their annoying presence than on account of the actual damage they do. Ordinarily they are not regarded as injurious pests, yet they have jaws with which, in spite of their delicate structure, they can gnaw. They feed upon decaying timbers, feathers, straw, and hair, and upon flour, meal, and other farinaceous substances, and even dust. They eat the starchy paste in book bindings, wall paper, and photographs. Indeed, they are general feeders upon dead and decaying animal and vegetable matter.

Book-lice thrive best in closed rooms that are warm and damp. Seldom are they noticed in light, airy rooms in constant use, but more often are found in numbers in darkened, damp parlors kept closed except on special occasions, and in houses that have been closed all summer. They die off during cold weather, but may leave behind them eggs which hatch the following spring to furnish the infestation for the succeeding year. Ordinarily they do not become abundant enough to attract attention until late summer or early fall.

CONDITIONS FAVORABLE TO THEIR INCREASE.

As stated, book-lice are not especially injurious in dwelling houses, barracks, or factories. It is only when materials which they are capable of injuring, or in which they can breed, are left undisturbed for long periods that they are likely to increase to such an extent as to cause serious damage or annoyance. Occasionally they multiply excessively in some available food supply, and swarm over a house to the consternation of the housekeeper, but fortunately such instances are rare. Upholstered furniture and mattresses stuffed with straw, husks, hair, feathers, or moss are specially favorable places for their multiplication, and in the worst cases of infestation on record, the psocids have come from such sources. They have been found in myriads in straw in barns and stables, in the straw coverings of wine bottles in cellars, and in rooms in which tow used in the manufacture of upholstered furniture is kept.

One record on file indicates the usual history of infestation. In a new house kept by very neat occupants, a mattress of hair and corn husks which had been purchased not more than six months before was found in a badly infested condition after the house had been closed about six weeks.

It was so covered with psocids that a pin could not be stuck into the mattress without piercing an insect. The side of the sheet next to the mattress was likewise covered, and a further search showed the walls and the entire house to be swarming with the tiny pests. A sweep of the hand over the walls would gather them by the thousands. Bureau drawers were swarming with

them, and they were on every object and in everything. The mattress was found to contain millions of them, and seemed to be the source of the supply.

In a second case, newly purchased upholstered furniture became a distributing point. When such excessive outbreaks of the pests occur in newly purchased mattresses and furniture, the cause beyond doubt is the use at the factory of unsterilized stuffings.

HOW TO CONTROL BOOK-LICE IN HOUSES.

Where only a few book-lice are present, a thorough cleaning, airing, and drying of the room is all that is needed, provided the source of infestation is within the room itself. As many as possible of the objects in the room should be removed and thoroughly sunned on a bright day. The room should be heated to a temperature of 120° to 140° F. for several hours. Psocids are soft-bodied insects, and succumb to a prolonged drying due to heat. Where rooms are located on the ground floor in loosely constructed buildings in shaded and damp situations, as are many summer cottages, so many psocids come in from the outside that almost no treatment will entirely rid a room of them.

When book-lice swarm in alarming numbers over and throughout a room the breeding places should be located at once. If the source is old straw or husk fillings of mattresses, these should be removed and burned wherever possible. Thorough fumigation with the fumes of sulphur,[1] 1 pound of sulphur being burned for each 1,000 cubic feet of space, is effective. Where other pests are present, such as bedbugs, and where the bleaching effects of the fumes can be disregarded, as in barracks, 5 pounds of sulphur will prove effective. During fumigation the rooms should be kept closed as tightly as possible, and after five or six hours opened from without and thoroughly aired. Fumigation with hydrocyanic-acid gas is very effective, but dangerous in the hands of inexperienced persons. (See Farmers' Bulletin 699.)

Closets, boxes, trunks, and sometimes even entire rooms, where infested objects are kept near the floor, can be fumigated satisfactorily with carbon disulphid. (See Farmers' Bulletin 799.) In addition to cleanliness and plenty of sunlight, heat or fumigation, wherever it can be applied, will yield the best results, if the source of infestation has been removed.

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[1] Before resorting to sulphur fumigation the householder should be warned that sulphur fumes can unite with moisture in the air to form sulphuric acid, thus having a bleaching effect upon wall paper and other articles, as well as tarnishing metals of all sorts. The damper the house, the greater the bleaching. In houses thoroughly dried by heat very little bleaching occurs. *Householders possessing homes furnished with rare or valuable articles should never use sulphur.*

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